other methods. When structures are installed below subgrade in embankments, the tamped fill shall be placed to a depth of 1 ft over the top of the structure, while in excavation sections the tamped fill shall extend to the surface of the finished earthwork.

210.04 MEASUREMENT AND PAYMENT. Compacting embankments and backfills by mechanical tampers or vibratory compactors will not be measured but the cost will be incidental to the pertinent items specified in the Contract Documents.

SECTION 211 — GEOSYNTHETIC STABILIZED SUBGRADE USING GRADED AGGREGATE BASE

211.01 DESCRIPTION. This work shall consist of furnishing and installing a layer of geotextile and a minimum of 12 in. of graded aggregate base to bridge unstable material and minimize the use of undercutting. This item shall only be used when specified in the Contract Documents or as directed by the Engineer. In extremely unstable areas, the Engineer may increase the thickness of the graded aggregate base material.

211.02 MATERIALS.

Graded Aggregate Base	901.01
Geotextile for Subgrade Stabilization-Class ST	921.09
Securing Pins or Staples	921.09

211.03 CONSTRUCTION.

211.03.01 Test Strip. In extremely unstable areas, the Engineer may direct that a test strip be constructed to determine the thickness of aggregate layer required to stabilize the area. The test strip shall be a minimum of 100 ft in length and at least one lane wide. The Engineer will determine the depths of aggregate to be used in the test strip. Based on the results of the test strip the Engineer will determine the thickness of aggregate to use in subsequent construction.

211.03.02 Grade Preparation. When geosynthetic stabilized subgrade using graded aggregate base is specified, the area where the geotextile is to be placed shall be cut to the depth shown on the Contract Documents or as directed by the Engineer.

The grade upon which the geotextile is to be placed shall be brought to the line, grade, and cross section specified. The grade shall be as smooth as practical and free of debris. Construction traffic on the grade shall be

minimized. When ruts are formed by construction traffic, they shall be removed by reshaping the affected area. The grade shall not be overworked and shall be approved by the Engineer prior to placement of the geotextile. Adequate surface drainage shall be maintained in conformance with 208.03.03.

Compaction and moisture requirements for the underlying soil on which the geotextile is to be placed may be waived by the Engineer.

211.03.03 Geotextile Placement. Geotextile shall be placed on the prepared surface for the full width of the area to be treated. In areas where longitudinal underdrain is to be placed, the geotextile shall be placed up to the edge of the proposed longitudinal underdrain trench, but shall not be placed where the trench is to be excavated.

The geotextile shall be unrolled on the grade parallel to the base line without dragging it across the grade. Wrinkles and folds in the geotextile shall be removed by stretching and pinning.

The geotextile shall be overlapped a minimum of 30 in. at roll edges and ends. Overlaps at the end of the roll shall be in the direction of aggregate placement with the roll being covered on top of the next roll. Roll ends and roll end overlaps shall be pinned a minimum of 5 ft on center. Roll edges and roll edge overlaps shall be pinned a minimum of 50 ft on center.

For curves the geotextile shall be folded or cut and overlapped in the direction of the turn. Folds in the geotextile shall be pinned a minimum of 5 ft on center. Damaged geotextile shall be repaired or replaced immediately as directed by the Engineer at no additional cost to the Administration. Geotextile patches shall be overlapped a minimum of 3 ft into undamaged geotextile.

Traffic, including construction equipment, is prohibited on the bare geotextile.

211.03.04 Aggregate Placement. Placement of the graded aggregate base shall be in conformance with Section 501 with the following exceptions:

(a) Placement and Spreading. Aggregate shall be placed within three working days of geotextile placement. The graded aggregate base shall be placed as a single lift in the thickness required to provide the specified compacted depth. The graded aggregate base shall be placed by end dumping and spreading. Construction shall be parallel to the base line. Turning of construction equipment on the graded aggregate base shall be kept to a minimum.

(b) Density Requirements. Immediately after placement, the graded aggregate base material shall be compacted to the required density. The top 6 in. of the graded aggregate base shall be compacted to a minimum density of 95 percent of maximum dry density with a moisture content equal to optimum moisture content ± 2 percent, unless otherwise directed by the Engineer. The optimum moisture content and maximum dry density shall be determined in conformance with T 180. In-place density shall be measured as specified in MSMT 350 or 352. Compaction requirements will be waived for the graded aggregate base material below the top 6 in.

(c) Vibration. Graded aggregate base shall not be vibrated unless otherwise specified or directed by the Engineer.

211.04 MEASUREMENT AND PAYMENT. Geosynthetic Stabilized Subgrade Using Graded Aggregate Base will be measured and paid for at the Contract unit price per cubic yard. The payment will be full compensation for furnishing and placing the geotextile and graded aggregate base, compaction, test strip, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Excavation will be measured and paid for in conformance with Section 201.